

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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AMERICAN ORTHODONTICS CORPORATION,  
Petitioner,

v.

DENTSPLY INTERNATIONAL INC.,  
Patent Owner.

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Case IPR2016-01652  
Patent 6,276,930 B1

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Before JAMES A. TARTAL, FRANCES L. IPPOLITO, and  
JAMES A. WORTH, *Administrative Patent Judges*.

TARTAL, *Administrative Patent Judge*.

DECISION  
Institution of *Inter Partes* Review  
37 C.F.R. § 42.108

## I. INTRODUCTION

American Orthodontics Corporation (“Petitioner”) filed a Petition (Paper 2, “Pet.”) requesting institution of *inter partes* review of claims 1–10 of U.S. Patent No. 6,276,930 B1 (Ex. 1001, “the ’930 patent”). Dentsply International Inc. (“Patent Owner”) filed a Preliminary Response (Paper 6, “Prelim. Resp.”). We have jurisdiction under 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.”

Upon consideration of the Petition and the Preliminary Response, we conclude the information presented shows there is a reasonable likelihood that Petitioner would prevail in showing the unpatentability of challenged claims 1–10. Accordingly, we authorize an *inter partes* review to be instituted as to claims 1–10 of the ’930 patent. Our factual findings and conclusions at this stage of the proceeding are based on the evidentiary record developed thus far (prior to Patent Owner’s Response). This is not a final decision as to patentability of claims for which *inter partes* review is instituted. Any final decision will be based on the record, as fully developed during trial.

## II. BACKGROUND

### A. *The ’930 Patent*

The ’930 patent, titled “Orthodontic Aid,” issued August 21, 2001, from U.S. Application No. 09/443,724, filed November 19, 1999. Ex. 1001. The ’930 patent generally relates “to an orthodontic aid or bracket.” Ex. 1001, 1:11–12. In particular, the ’930 patent describes “an orthodontic

bracket having a retention base for a respective tooth and identifying indicia in relation to the tooth for which the orthodontic aid is suitable.” *Id.* at 2:18–21. “The size of the indicia is at least 3 square millimeters,” and the indicia has “substantially null depth with respect to the retention base.” *Id.* at 2:22–24.

Figures 1 and 2 of the '930 patent are reproduced below:

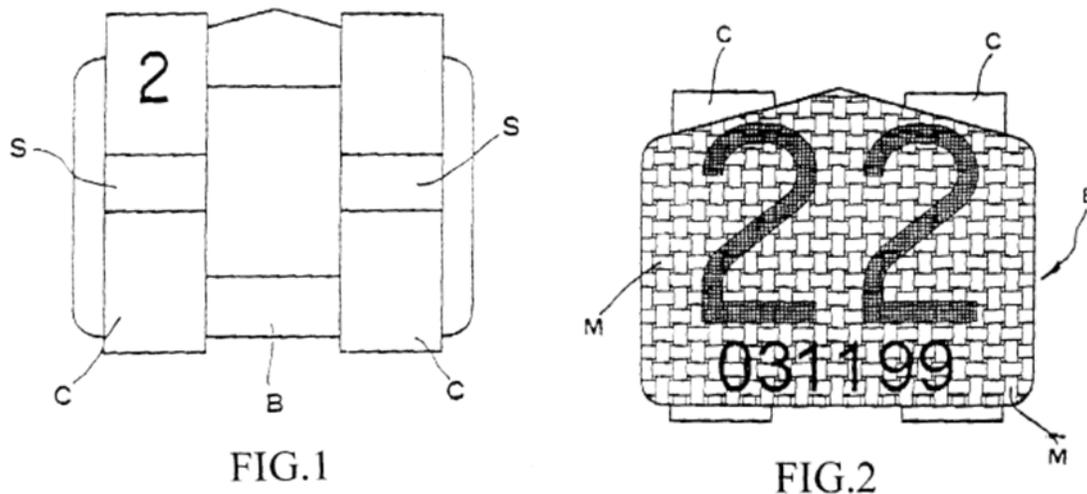
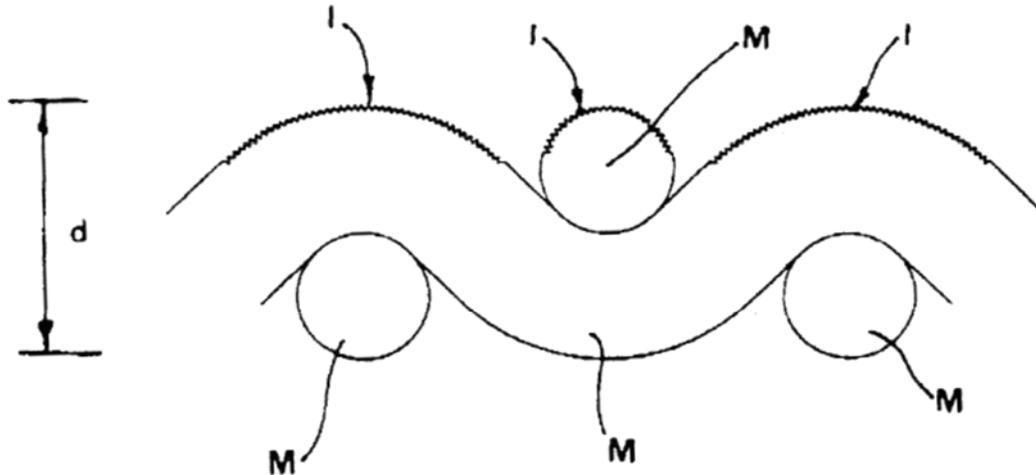


Figure 1 illustrates “a plan view of an orthodontic aid with traditional identification codes.” *Id.* at 2:53–54. Figure 2 illustrates “a back view of an orthodontic aid in accordance with the [claimed] invention.” *Id.* at 2:55–56. The orthodontic bracket consists of “a retention base (B) and [] two bodies (C) wedged to the retention base and provided with seats for a corresponding section of an orthodontic archwire.” *Id.* at 2:67–3:4. The orthodontic aid includes indicia consisting of a numerical code (the number “22” appearing in Figure 2) provided on the backside of the retention base (B) which is the side that will adhere to the tooth. *Id.* at 3:4–7. The claimed invention may be applied to various types of bases, with Figure 2 illustrating a “net-like base structure” consisting of individual elements (M) in a lattice

arrangement. *Id.* at 3:54–60. According to the '930 patent, Miller<sup>1</sup> discloses “[a]n orthodontic aid featuring a net-like retention base. *Id.* at 3:61–64.

Figure 4 of the '930 patent is reproduced below.



**Fig. 4**

Figure 4 is “a schematic partial cross section of the net-like back side of an orthodontic aid in accordance with the [claimed] invention.” *Id.* at 2:60–62. The net-like base structure “consists of individual mesh elements (M) in a lattice arrangement.” *Id.* at 3:57–60. A laser beam or other equivalent means may be used for marking of the indicia, resulting in roughened portions of elements (M) identified in Figure 4 by the letter “I,” which provide a wider area where adhesive can operate more effectively. *Id.* at 4:5–15. The depth of the portion altered by marking is substantially null with respect to the depth (d) of the base. *Id.* at 4:26–29. The indicia also follows the outer profile of the net-like base. *Id.* at 4:17–19.

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<sup>1</sup> U.S. Patent No. 4,068,379, issued Jan. 17, 1978 (Ex. 1007, “Miller”).

*B. Illustrative Claims*

Claims 1 and 6 of the '930 patent are independent. Claims 2–5 depend from claim 1 and claims 7–10 depend from claim 6. Claims 1 and 6 are illustrative of the claimed subject matter and are reproduced below:

1. An orthodontic bracket, comprising:  
a retention base for a respective tooth, said retention base having a back side; identifying indicia for identifying the respective tooth for which the orthodontic bracket is suitable, said indicia including a sign provided on the back side of said retention base, the size of said indicia being at least 3 square millimeters, the depth of said indicia being substantially null with respect to the depth of the retention base, said indicia having a profile which follows the outer profile of said retention base.

Ex. 1001, 4:41–51.

6. An orthodontic bracket, comprising:  
a retention base for a respective tooth, said retention base having a net-like structured back side;  
identifying indicia for identifying the respective tooth for which the orthodontic bracket is suitable, said indicia including a sign provided on the back side of said retention base, the size of said indicia being at least 3 square millimeters, the depth of said indicia being substantially null with respect to the depth of the retention base, said indicia having a profile which follows the outer profile of said retention base

*Id.* at 4:64–5:8.

*C. Related Proceedings*

The parties indicate that the '930 patent is asserted in the United States District Court for the Middle District of Pennsylvania, in a case captioned *Dentsply Int'l, Inc. v. American Orthodontics Corp.*, No. 15-CV-1706 (M.D. Pa.). Pet. viii; Paper 4, 1.

*D. Real Parties in Interest*

Petitioner identifies only itself as a real party in interest. Pet. viii. Patent Owner identifies Dentsply Sirona Inc. as the real party in interest and owner of the '930 patent following a 2016 merger of Dentsply International Inc. and Sirona Dental Systems. Paper 4, 1.

*E. The Asserted Grounds of Unpatentability*

Petitioner challenges the patentability of claims 1–10 of the '930 patent on the following grounds:

Reference(s)	Basis	Claims Challenged
Roman, <sup>2</sup> Horng, <sup>3</sup> and Farzin-Nia <sup>4</sup>	§ 103(a)	1–10
Miller <sup>5</sup> and Kesling <sup>6</sup>	§ 103(a)	1–3 and 6–8
Miller and Orikasa <sup>7</sup>	§ 103(a)	1–3 and 6–8
Miller, Kesling, and Orikasa	§ 103(a)	1–3 and 6–8
Miller, Kesling, and Roman	§ 103(a)	4, 5, 9, and 10
Miller, Orikasa, and Roman	§ 103(a)	4, 5, 9, and 10
Miller, Kesling, Orikasa, and Roman	§ 103(a)	4, 5, 9, and 10
Farzin-Nia, Kesling, and Röhlcke <sup>8</sup>	§ 103(a)	1–10
EP '801 <sup>9</sup>	§ 103(a)	1–10

<sup>2</sup> U.S. Patent No. 5,556,276, issued Sep. 17, 1996 (Ex. 1002, “Roman”).

<sup>3</sup> U.S. Patent No. 5,322,436, issued June 21, 1994 (Ex. 1003, “Horng”).

<sup>4</sup> U.S. Patent No. 5,480,301, issued Jan. 2, 1996 (Ex. 1004, “Farzin-Nia”).

<sup>5</sup> See footnote 1 *supra*.

<sup>6</sup> U.S. Patent No. 4,120,090, issued Oct. 17, 1978 (Ex. 1005, “Kesling”).

<sup>7</sup> U.S. Patent No. 5,595,484, issued Jan. 21, 1997 (Ex. 1008, “Orikasa”).

<sup>8</sup> U.S. Patent No. 5,238,402, issued Aug. 24, 1993 (Ex. 1006, “Röhlcke”).

<sup>9</sup> European Patent Application Publication EP 0 876 801 A1, published Nov. 11, 1998 (Ex. 1009, “EP '801”).

*F. Summary of Asserted Prior Art*

Petitioner relies on eight references as prior art. Petitioner also supports its challenge with a Declaration of W. Eugene Roberts, D.D.S., Ph.D., dated August 19, 2016 (Ex. 1010) and a Declaration of Michael L. Lebby, Ph.D., August 18, 2016 (Ex. 1011). Each of the asserted references is briefly summarized below.

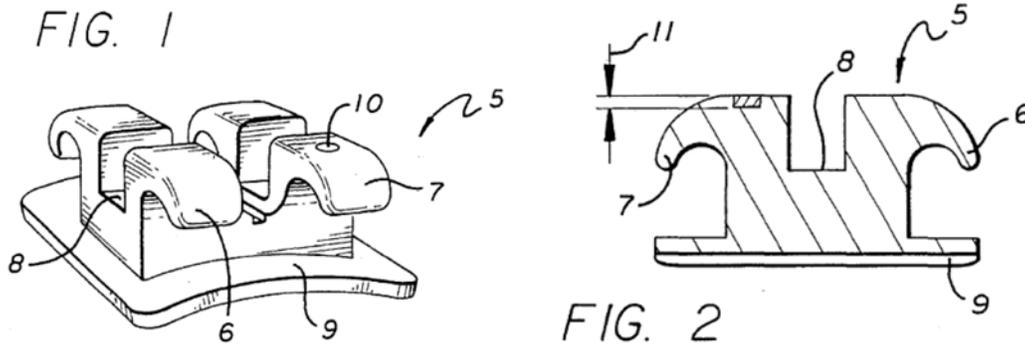
*1. Roman (Ex. 1002)*

Roman, titled “Laser Annealing Marking of Orthodontic Appliance,” describes the use of a laser to anneal the surface of an orthodontic bracket for identification purposes. Ex. 1002, Abstract. Roman explains the problem it seeks to address, stating that:

As a result of the sterilization process, the orthodontic appliances become commingled and are difficult to identify because of their small size and nearly identical shape. In order to more easily identify orthodontic appliances, various methods have been employed such as color coding portions of the appliance. Unfortunately, the color tends to wash away with the sterilization process leaving the orthodontist with the task of sorting through unmarked appliances.

*Id.* at 37–44. Roman describes using a laser beam “of sufficient power to anneal the surface thereby causing a marking area on a portion of the surface, without remelting the surface area.” *Id.* at 2:9–12.

Roman Figures 1 and 2 are reproduced below.



Roman Figures 1 and 2 illustrate orthodontic bracket 5 with tie wings 6, 7 mounted on base pad 9. *Id.* at 38–43.

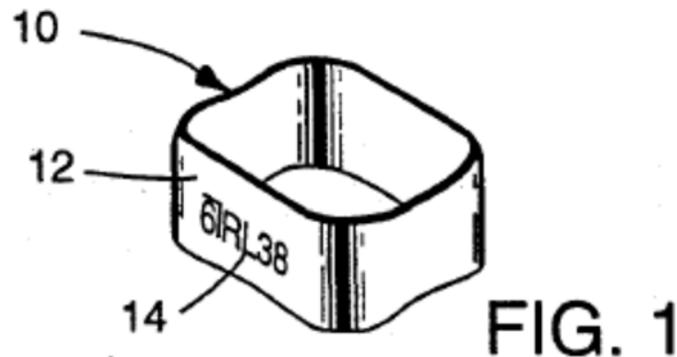
In a preferred embodiment, marking area 10 is provided on orthodontic bracket 5, and generally on one or both of the wings 6, 7. Marking area 10 can include any specific pattern or design, or may include any combination of alpha and numeric characters for identification of orthodontic bracket 5.

*Id.* at 2:51–56. The depth of marking area 11, shown in Figure 2, is determined by a number of factors, including the velocity of the laser and the thermoconductivity, color, and surface finish of the bracket. *Id.* at 3:33–43.

## 2. *Hornig (Ex. 1003)*

Hornig, titled Engraved Orthodontic Band, describes an orthodontic band with an easy-to-read, laser-engraved mark. Ex. 1003, Abstract.

Figure 1 of Horng is reproduced below.

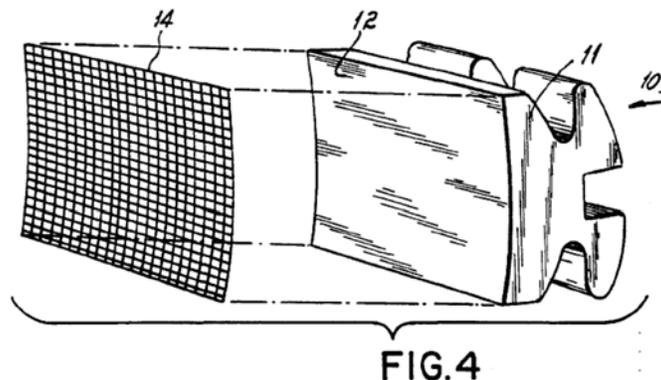


Horng Figure 1 illustrates orthodontic band 10, including outer wall 12 and “an engraved identification mark 14 preferably made by a laser.” *Id.* at 2:55–63.

3. *Farzin-Nia (Ex. 1004)*

Farzin-Nia, titled *Orthodontic Appliances Having Improved Bonding Characteristics and Methods of Making*, describes a “primary mechanical interlock retention surface” in the form of a mesh applied to the tooth contact surfaces. Ex. 1004, Abstract.

Figure 4 of Farzin-Nia is reproduced below.



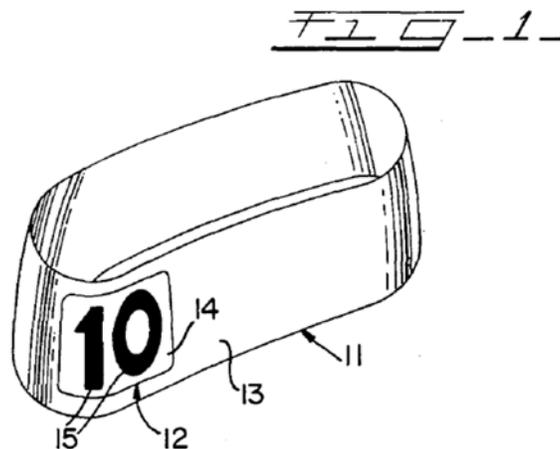
Farzin-Nia Figure 4 illustrates orthodontic bracket 10 with bonding base 11, which has tooth contact surface 12 designed to be bonded to the exterior

surface of a tooth. *Id.* at 4:62–66, 5:48–56. Mesh 14 is preferably diffusion bonded to tooth contact surface 12. *Id.* at 5:52–54. “[A]fter woven mesh 14 has been secured to tooth contact surface 12, bracket 10 is subjected to ion bombardment whereby very small amounts of material are removed from the mesh 14 and the exposed areas of tooth contact surface 12,” thereby increasing the roughness of the surface. *Id.* at 6:10–16. Roughening the surface “provides more area for mechanical adhesion with the dental adhesive used to bond the bracket to the tooth and thus results in increased mechanical bond strength.” *Id.* at 6:16–19.

4. *Kesling (Ex. 1005)*

Kesling, titled Orthodontic Band with Identification and Method of Making the Identification, describes applying identification to an orthodontic band by applying a “first coating or layer of material in the form of a suitable geometrical shape and a second coating or layer of material on the first coating in the form of indicia.” Ex. 1005, Abstract.

Figure 1 of Kesling is reproduced below.



Kesling Figure 1 illustrates preformed orthodontic band 11 with identification 12 applied to exterior surface 13. *Id.* at 2:62–63.

“Identification 12 in [Fig.] 1 includes a first coating or layer 14 of non-toxic FDA approved material such as a suitable ink or paint; and a second layer or coating 15 of non-toxic FDA approved material and in the form of indicia, and in this illustration the numeral ‘10.’” *Id.* at 3:24–28. “The identification 12 is located on the lingual side band which would not show when mounted on a tooth of a patient.” *Id.* at 3:18–20.

5. *Röhlcke (Ex. 1006)*

Röhlcke, titled Marked Orthodontic Aid and Method of Manufacturing, describes improving the optically visible marking area of a metallic orthodontic aid with “a surface of an additionally produced layer with a remelt structure.” Ex. 1006, Abstract. The remelt structure can be produced by a laser beam or other means. *Id.* at 3:13–15. “[A] layer with a remelt structure can be produced with a defined thickness and, therefore, the number of recycling process cycles which this layer is to withstand can be fixed by the thickness of the layer with a remelt structure.” *Id.* at 1:66–2:2. The thickness of the remelt layer is chosen in the range of 0.1  $\mu\text{m}$  to 0.5  $\mu\text{m}$ . *Id.* at 5:25–27.

6. *Miller (Ex. 1007)*

Miller, titled Orthodontic Appliance with Porous Tooth-Abutting Face, describes bonding mesh to the base of an orthodontic appliance. Ex. 1007, Abstract.



Figure 13 is the rear view of the bracket 30 illustrating the back of the base 32. *Id.*

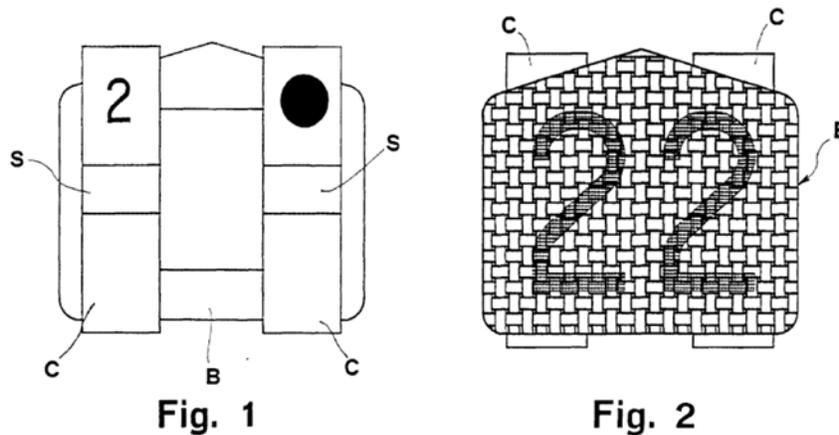
Identification characters 35 (shown for example as “U3L” in the drawing) are molded in recessed portions 36 of the lingual surface 34 of the bracket 30. An important advantage of locating the identification characters 35 on the lingual surface 34 is that after cement or other bonding material is applied to the lingual surface 34 to bond the bracket 30 to the tooth, the reference characters should not be noticeable.

*Id.* at 6:46–53.

8. EP '801 (Ex. 1009)

EP '801, published on November 11, 1998, is the European counterpart of the parent application of the '930 patent. Ex. 1009, 1; Pet. 48; Prelim. Resp. 28.

Figures 1 and 2 of EP '801, are reproduced below.



Figures 1 and 2 of EP '801 are substantially similar to Figures 1 and 2 of the '930 patent, with Figure 1 illustrating an orthodontic aid with traditional identification codes and Figure 2 illustrating a back view of an orthodontic aid in accordance with the claimed invention. Ex. 1009 at 2.

### III. ANALYSIS

#### A. *Claim Construction*

Claims 1 and 6 each recite “indicia including a sign.” Petitioner contends that “sign” should be construed to mean “marking, figure, or symbol.” Pet. 7–9. Patent Owner does not contest Petitioner’s proposed construction in its Preliminary Response. Prelim. Resp. 4. We determine no terms require express construction for purposes of this Decision. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999): “only those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”

#### B. *Level of Ordinary Skill*

With respect to the level of ordinary skill, Petitioner contends:

A person of ordinary skill in the art would have at least some experience in the design, manufacture, or use of orthodontic brackets, or in the field of laser based technologies; such a person would have at least a bachelor’s degree in an engineering or science field and at least one year of relevant work experience.

Pet. 9 (citing Ex. 1010 ¶¶ 31–35; Ex. 1011 ¶¶ 24–25). Patent Owner “reserves the right to dispute either of Petitioner’s alternative definitions” of a person of ordinary skill. Prelim. Resp. 4. We find Patent Owner’s assertion that Petitioner “introduces ambiguity” by identifying alternative qualifications for the hypothetical person of ordinary skill in the art to be unsupported and discern no inconsistency in the range of qualifications identified by Petitioner. *See id.* at 3–4. For the purposes of this Decision, we determine that no express finding is necessary, on this record, and that the level of ordinary skill in the art is reflected by the prior art of record. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001); *In re*

*GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995); *In re Oelrich*, 579 F.2d 86, 91 (CCPA 1978).

C. *Asserted Obviousness over Roman, Horng, and Farzin-Nia*

Petitioner contends that claims 1–10 of the '930 patent would have been obvious over Roman, Horng, and Farzin-Nia. Pet. 13–26. More particularly, Petitioner argues that Roman “teaches the use of a diode-pumped laser to mark on a variety of orthodontic appliances,” that Horng “teaches the laser engraving of identifiers on orthodontic bands,” and that Farzin-Nia discloses “an orthodontic bracket having a mesh-backed base.” *Id.* at 13. Petitioner asserts that the challenged claims “are simply a combination of these known elements for their intended purposes, yielding predictable results.” *Id.* With respect to claim 1, Petitioner relies only on Horng as disclosing the limitation “the size of said indicia being at least 3 square millimeters.” *See* Pet. 23. As to the asserted combination, Petitioner states that “larger markings are easier to read,” that “artisans would be inherently motivated to improve readability of identifiers, without affecting function,” and that there are “a finite number of places on an orthodontic bracket where legible markings could be placed.” Pet. 21. Petitioner supports its challenge by providing an analysis of each reference, including a claim chart and detailed discussion explaining how the references meet each limitation of the challenged claims, as supported by citations to the Declarations of Dr. Roberts and Dr. Lebbly. *Id.* at 13–26.

Patent Owner disputes Petitioner’s contentions for a number of reasons. Prelim. Resp. 5–15. First, Patent Owner argues that Petitioner fails to address the claim limitation “wherein the depth of the indicia is ‘with respect to the depth of the retention base.’” *Id.* at 6. Patent Owner,

concedes that the limitation is addressed in Petitioner's claim chart, but only with respect to a depth that is "substantially null," not with respect to "the depth of the retention base." *Id.* at 7. Second, Patent Owner argues that Petitioner fails to address the claim limitation "the indicia having a profile which follows the outer profile of said retention base." Prelim. Resp. 7–9. Patent Owner concedes that the limitation is addressed in Petitioner's claim chart, but only with respect to "follows the outer profile" and not with respect to "indicia having a profile." *Id.* at 8–9.

Patent Owner has identified no ambiguity in the Petition as to what Petitioner contends the asserted references disclose as corresponding to the relevant claim language. We are not persuaded by Patent Owner's argument, on the present record, that a depth that is merely "substantially null" may be distinguished based on the "the depth of the retention base" in light of the disclosures of the asserted references as a whole. Similarly, we are not persuaded that indicia that follows the outer profile of the retention base may be distinguished from "indicia having a profile" which "follows the outer profile" of the retention base. On the present record, Petitioner has sufficiently shown that Roman discloses "the depth of said indicia being substantially null with respect to the depth of the retention base" (*see* Pet. 23 (citing, *inter alia*, Ex. 1002 Fig. 2)) and that Roman discloses "said indicia having a profile which follows the outer profile of said retention base" (*see* Pet. 23 (citing, *inter alia*, Ex. 1002 3:23–24 (explaining that the marking area is formed by an annealing process that is "an oxidation of the surface of the material"))).

Third, Patent Owner argues that Petitioner "does not properly address" the claim limitations regarding a retention base with a back side, or

a net-like structured back side, and indicia on the back side. Prelim. Resp. 9–12. Patent Owner then argues that Roman discloses marking on a tie wing, not on the back side or retention base, and that Horng has no retention base and only describes marking a band, not a bracket. *Id.* at 10. From this, Patent Owner argues that Petitioner is “wrong.” *Id.* at 10. The Petition, however, directly addresses the issue raised by Patent Owner and asserts that “Roman is not limited to marking on tie-wings, but fairly read, discloses marking anywhere on the ‘outer surface’ of a bracket.” Pet. 21 (citing Ex. 1011 ¶ 53). While Patent Owner suggests that the asserted references should be read more narrowly by placing “limitations on surfaces that can be marked,” we find Patent Owner’s unsupported arguments not persuasive based on the present record. *See* Prelim. Resp. 11–12. Petitioner has shown sufficiently, based on the present record, how it contends the asserted references disclose “said indicia including a sign provided on the back side of said retention base,” as claimed. *See* Pet. 23 (citing, *inter alia*, Ex. 1002, 2:53–61; Ex. 1003 2:63–3:2).

Fourth, Patent Owner argues that Roman and Horng teach away from their proposed combination. Prelim. Resp. 12–13. According to Patent Owner, the methods of marking differ between Roman and Horng, with the former describing a “dark or near black marking area” by an annealing process, and the latter a “white mark” using a laser in “wobble mode” and a “passivation” step. *Id.* at 13. “The prior art’s mere disclosure of more than one alternative does not constitute a teaching away from any of these alternatives because such disclosure does not criticize, discredit, or otherwise discourage the solution claimed in the ... application.” *In re Fulton*, 391 F.3d 1195, 1201, 73 USPQ2d 1141, 1146 (Fed. Cir. 2004).

Patent Owner directs us to no portion of any asserted reference that criticizes, discredits, or otherwise discourages in a manner that would constitute a teaching away from a combination with another of the asserted references. Patent Owner has not shown sufficiently that merely because the references use different means of marking, a person of ordinary skill would be discouraged from viewing the means of marking as substitutable, much less incompatible as Patent Owner contends.

Fifth, Patent Owner argues that Petitioner has not shown “why the disclosure of Horng would suggest specific marking on Roman or Farzin-Nia.” Prelim. Resp. 14–15. In particular, Patent Owner suggests that the Petition fails to “assert the considerations for bands and brackets are necessarily the same,” and further argues that “the location for the distinct components of Roman and Horng is not compatible.” *Id.* Patent Owner’s unsupported arguments are not persuasive in light of the present record. *See* Pet. 18 (citing Ex. 1010 ¶ 111) (stating that “[a]lthough Horng relates to orthodontic bands, which are older technology, the teaching in Horng demonstrates the same concept, which translates to marking indicia on the back of an orthodontic bracket”).

Lastly, Patent Owner argues that Roman was considered during examination, and that Horng and Farzin-Nia provide no additional disclosure beyond what was considered during prosecution. Prelim. Resp. 15. We are not persuaded under the circumstances presented in this case that institution should be denied merely because certain references relied on by Petitioner were presented during prosecution. *See* 35 U.S.C. § 325(d) (“the Director *may* take into account whether, and reject the petition or request because, the

same or substantially the same prior art or arguments previously were presented to the Office”) (emphasis added).

We have reviewed Petitioner’s contentions and evidence, as well as Patent Owner’s arguments, and we find that, on the record before us, Petitioner has shown a reasonable likelihood that it would prevail in establishing that the combination of Roman, Horng, and Farzin-Nia would have rendered the subject matter of claims 1–10 obvious to one of ordinary skill in the art at the time of the invention.

*D. Asserted Obviousness over Miller and Other Additional Prior Art*

Petitioner contends that claims 1–3 and 6–8 would have been obvious over “Miller in view of Kesling and/or Orikasa.” Pet. 38–45. Asserting a challenge through such a range of alternatives while describing it as a single ground unnecessarily confuses the arguments Petitioner purports to advance. As a practical matter, Petitioner is proposing three combinations of prior art: (1) Miller and Kesling, (2) Miller and Orikasa, and (3) Miller, Kesling, and Orikasa. Petitioner, however, fails to distinguish between the three grounds or to explain how the multiple alternatives may be distinguished from one another on the merits. The only claim chart Petitioner provides in this regard cites portions of all three references, and, with regard to certain limitations, the only reference cited is Orikasa, while Kesling is the only reference cited regarding other limitations. Pet. 43–44. As an initial matter, in light of the claim chart and absence of additional explanation, we determine Petitioner has not shown a reasonable likelihood of prevailing with respect to the asserted combinations of (1) Miller and Kesling and (2) Miller and Orikasa.

In consideration of the combination of all three references, Petitioner contends that “Miller teaches a mesh or net-backed bracket,” that Kesling “teaches the use of ink to create ‘indicia such as numerals and/or letters’ for identification,” and that Orikasa teaches “identification characters 35” in recessed portions of the lingual surface (i.e. the back) of the bracket.” Pet. 38–40. Petitioner argues that “a person of ordinary skill in the art would have combined the teachings of Miller and Kesling to solve the problem identified in Kesling of ‘easy-to-read’ identifiers,” thereby achieving “predictable results.” *Id.* at 42. Petitioner also asserts that “a person of ordinary skill in the art would have been motivated to try to retain the bonding characteristics and benefits obtained from” the mesh textured bracket base taught by Miller, and that Orikasa suggests placing the marking on the bracket base. *Id.* at 42–43.

Petitioner also contends that claims 4, 5, 9, and 10 would have been obvious over the same combination with the addition of Roman, which discloses the use of a diode-pump laser apparatus for marking orthodontic brackets. Pet. 46–47. According to Petitioner, it would have been obvious to try the diode-pump laser of Roman in the asserted combination “[g]iven the prevalence in the use of lasers.” *Id.* at 46.

Patent Owner disputes Petitioner’s contentions for a number of reasons which mirror substantially arguments Patent Owner raised with regard to the asserted combination of Roman, Horng, and Farzin-Nia addressed above. *See* Prelim. Resp. 23–28 (arguing the Petition fails to properly address “with respect to the depth of the retention base,” “indicia having a profile,” and “the depth of said indicia”). Patent Owner has identified no ambiguity in the Petition as to what Petitioner contends the

asserted references disclose as corresponding to the relevant claim language. Having considered each of Patent Owner's arguments we are persuaded, based on the present record, that Petitioner has explained sufficiently how the asserted references disclose features corresponding to the relevant claim language. *See* Pet. 38–47.

Patent Owner also argues that Miller and Orikasa were considered during examination, and that Kesling provides no additional disclosure not considered during prosecution. Prelim. Resp. 28. We are not persuaded under the circumstances presented in this case that institution should be denied merely because certain references relied on by Petitioner were presented during prosecution. *See* 35 U.S.C. § 325(d).

We have reviewed Petitioner's contentions and evidence, as well as Patent Owner's arguments, and we find that, on the record before us, Petitioner has shown a reasonable likelihood that it would prevail in establishing that the combination of (1) Miller, Kesling, and Orikasa would have rendered the subject matter of claims 1–3 and 6–8 obvious to one of ordinary skill in the art at the time of the invention, and (2) Miller, Kesling, Orikasa, and Roman would have rendered the subject matter of claims 4, 5, 9, and 10 obvious to one of ordinary skill in the art at the time of the invention.

*E. Remaining Asserted Grounds of Unpatentability*

Petitioner also argues alternative grounds for unpatentability: (1) obviousness under § 103 of claims 1–10 over Farzin-Nia, Kesling, and Röhlcke; and (2) obviousness under § 103 of claims 1–10 over EP '801. Pet. 26–38, 47–58. We have considered the parties arguments and evidence with respect to these grounds, but decline to institute *inter partes* review of

the challenged claims on these bases. We have found sufficient for institution of *inter partes* review Petitioner's contentions based on combinations of Roman, Horng, and Farzin-Nia as well as Miller, Kesling, Orikasa, and Roman. With regard to the grounds based on either of the two additional references, Röhlcke or EP '801, Petitioner does not explain the weaknesses or strengths of one ground over the other.

Moreover, with respect to the asserted combination of Farzin-Nia, Kesling, and Röhlcke, Petitioner's arguments that the asserted combination "would have been obvious" or that a person of ordinary skill in the art "would have been motivated" are largely conclusory. *See* Pet. 27, 33. Petitioner's reliance on an "obvious to try" rationale also does not expressly identify a design need or market pressure to solve a problem that corresponds to the alleged obvious to try rationale that purports to support the asserted combination of all three references. *See id.* at 32–34; *see also KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) ("When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp.")

With respect to alleged obviousness over EP '801, Petitioner provides limited explanation of certain substantive contentions. For example, the claim chart provided by Petitioner merely states "Lebby Decl. ¶ 111" as corresponding to the claim limitation "said indicia having a profile which follows the outer profile of said retention base" – the same limitation Petitioner also describes as "significant both in terms of quantity and content." Pet. 50, 57. Further, Petitioner argues in a conclusory manner that missing limitations either "would be a simple design choice" or "would be

common sense.” *Id.* at 55. Merely citing to a portion of a declaration or broadly discussing the field of the technology at issue typically does not provide sufficient explanation as to how a reference renders obvious a claim limitation.

Under our Rules, we have broad discretion to institute an *inter partes* review as to some asserted grounds and not others. 37 C.F.R. § 42.108. Indeed, the United States Court of Appeals for the Federal Circuit recognized our discretion in this regard when it stated that “under [37 C.F.R. § 42.108(a)], it is clear that the Board may choose to institute some grounds and not institute others as part of its comprehensive institution decision.” *Harmonic Inc. v. Avid Tech., Inc.*, No. 2015-1072, 2016 WL 798192, at \*9 (Fed. Cir. Mar. 1, 2016); *see HP Inc. v. MPHJ Tech. Inv., LLC*, No. 2015-1427, 2016 WL 1320920, at \*6 (Fed. Cir. Apr. 5, 2016). This discretion is consistent with the requirement that the statutory provisions governing an *inter partes* review proceeding take into account “the efficient administration of the Office” and “the ability of the Office to timely complete [instituted] proceedings” (35 U.S.C. § 316(b)), as well as the regulatory provisions that mandate these proceedings be “construed to secure the just, speedy, and inexpensive resolution of every proceeding” (37 C.F.R. § 42.1(b)). Accordingly, pursuant to our authority under 35 U.S.C. §§ 314 and 315 to manage *inter partes* proceedings with the objective of “secur[ing] the just, speedy, and inexpensive resolution of every proceeding,” we decline to institute trial on these remaining grounds. *See* 37 C.F.R. § 42.1.

### III. CONCLUSION

For the foregoing reasons, we are persuaded that the information presented in the Petition establishes that there is a reasonable likelihood that Petitioner would prevail with respect to its challenges as to the patentability of claims 1–10 of the '930 patent.

The Board has not made a final determination on the patentability of any challenged claims or the construction of any claim terms.

### IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that *inter partes* review is *instituted* in IPR2016-01652 with respect to the following grounds of unpatentability:

(1) claims 1–10 as obvious over Roman, Horng, and Farzin-Nia under 35 U.S.C. § 103(a);

(2) claims 1–3 and 6–8 as obvious over Miller, Kesling, and Orikasa under 35 U.S.C. § 103(a); and

(3) claims 4, 5, 9, and 10 as obvious over Miller, Kesling, Orikasa, and Roman under 35 U.S.C. § 103(a);

FURTHER ORDERED that no ground other than those specifically instituted above is authorized for the *inter partes* review;

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(a), *inter partes* review of the '930 patent is hereby instituted in IPR2016-01652 commencing on the entry date of this Order, and pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial.

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